**Online supplementary material**

**Supplementary Table S1.** Cytokine production of whole blood cultures stimulated with LPS *in vitro*, plasma chemokines and salivary IgA among volunteers recruited to a double-blind, placebo-controlled, randomised cross-over during treatment with a prebiotic (GOS, 8g/day), probiotic (*Bifidobacterium animalis* subsp *lactis*, Bi-07, 109 CFU/day) or synbiotic (GOS + Bi-07) 1. Statistical differences were calculated using ANOVA and 2x2 factorial design.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  | Treatment |  |  |  |  |  |
|  | **Maltodextrin****(n=9)** | **Prebiotic****(n=9)** | **Probiotic****(n=8)** | **Synbiotic****(n=10)** |
| *Cytokines (pg/ml)* | **Mean** | **SEM** | **Mean** | **SEM** | **Mean** | **SEM** | **Mean** | **SEM** |
| IFN-γ | 768 | 166 | 946 | 332 | 1861 | 466 | 1826 | 700 |
| IL-1β | 1445  | 271 | 1351 | 225 | 1161 | 210 | 1836 | 484 |
| IL-6 | 4024 | 874 | 4874 | 534 | 4271 | 736 | 4447 | 763 |
| IL-8 | 5448 | 931 | 4782 | 688 | 2857 | 491 | 4249 | 760 |
| IL-10 | 462 | 86 | 602 | 84 | 364 | 83 | 393 | 58 |
| TNF-α | 1602 | 834 | 1421 | 451 | 807 | 171 | 1068 | 391 |
| *Plasma chemokines (pg/ml)*  |  |  |  |  |  |  |  |  |
| G-CSF | 356 | 207 | 295 | 152 | 323 | 110 | 728 | 243 |
| MCP-1 | 547 | 39 | 589 | 47 | 672 | 88 | 588 | 41 |
| MIG | 360 | 65 | 352 | 93 | 278 | 17 | 557 | 150 |
| MIP-1α | 599 | 270 | 614 | 328 | 1049 | 401 | 2469 | 1561 |
| MIP-1β | 55 | 20 | 49 | 14 | 46 | 16 | 56 | 29 |
| *Salivary antibodies (µg/ml)* |  |  |  |  |  |  |  |  |
| IgA | 1914 | 519 | 1164 | 242 | 1594 | 459 | 1199 | 197 |

**Supplementary Table S2. Concentrations of short-chain fatty acids in the faeces.** Concentrations of short-chain fatty acids were analyzed from the feces of the subjects using High Performance Liquid Chromatography.1 Other organic acids such as lactic and formic acids were not detected. Statistical differences were calculated using ANOVA and 2x2 factorial design.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  | Treatment |  |  |  |
|  | **Maltodextrin (n=9)****(mmol/l)** | **Prebiotic (n=9)****(mmol/l)** | **Probiotic (n=8)****(mmol/l)** | **Synbiotic (n=10)****(mmol/l)** |
| *Short-chain fatty acid* | **Mean** | **SEM** | **Mean** | **SEM** | **Mean** | **SEM** | **Mean** | **SEM** |
| Acetic acid | 5.5 | 0.7 | 5.3 | 0.9 | 5.2 | 0.7 | 5.5 | 0.5 |
| Propionic acid | 1.7 | 0.3 | 1.5 | 0.3 | 1.4 | 0.2 | 1.4 | 0.2 |
| Butyric acid | 6.0 | 1.6 | 4.9 | 1.3 | 6.5 | 1.4 | 4.1 | 1.0 |